



Bloggers Roundtable Articles

Army Scientists Conducting Research on Global Warming

By Navy Seaman William Selby
New Media Directorate, Defense Media Activity

WASHINGTON, June 6, 2008 – The sun's irradiance and longer-term solar cycles are directly linked to global warming, a senior Army scientist said June 6.

"Our research suggested an alternative to the apparently universally accepted cause of global warming," said Bruce West, a chief scientist for the U.S. Army Research Office of Mathematical and Information Science in a teleconference with online journalists and bloggers.

"The scientific community [concurs] that humanity has caused the increase in the Earth's average surface temperature," West said. "I disagree with this representation of scientific opinion."

"The Earth's average surface temperature has increased by .80 degrees Centigrade over the past century, coincident with the growth of industry, which is recorded in the United Nations Intergovernmental Panel on Climate Change 2007 report," West said.

However, West explained that after detailed discussion, the report concluded that the Earth's temperature increase is due solely to anthropogenic greenhouse gas concentrations in the atmosphere.

"This conclusion is presented as the majority opinion of scientists and is based on analysis using a mix of large-scale computational global circulation models and energy balance models that incorporate into calculations all identified physical and chemical mechanisms," West said. "They deduce that from those models that the contribution of solar variability to global warming is negligible to a 95 percent certainty."

The Earth's climate response to solar irradiance leads West and his colleagues to conclude that the Earth's average surface temperature is directly linked to two distinctly different aspects of the sun's dynamics, in contrast to the findings of the United Nations report, West said.

"First of all, there is uncertainty in the data used [in the United Nations report]," West said. "We find that the relative contribution of the greenhouse gases to the temperature increases is determined by which input data set is used in the calculation."

The first data set used, the PMOD, calculated that 30 percent of the .8 degrees can be accounted for by solar activity, West said. In another model, the ACRIM, up to 69 percent is accounted for by the sun.

"Although both data sets are used in the climate community, the predictions used in the United Nations report used only PMOD and not ACRIM," West added.

The second destabilizing factor concerns the model employed in the United Nations report, West said. "These models were designed to reproduce the Earth's average surface temperature," he explained, "so there's no wonder that they can't do that."

The two aspects that link the sun's dynamics to the Earth's surface temperature are the short-term fluctuations in the sun's irradiance and the longer-term solar cycles.

"We were able to develop a theory based on the transfer of information to predict the conditions under which the Earth's surface temperature would inherit the short-term statistical variability of the sun's dynamics," he said.

West explained that consequently, his theory and observation are in "complete agreement" regarding short-term fluctuations.

"The other sun-to-climate linking involves the longer-term solar cycles with periods on the scale of decades," West said. "We find that averaging over the temperature anomalies reveals a periodic variation in the Earth's surface temperature."

The surface model West used was similar "in spirit" to the energy balance models used in the United Nations report, but the data was different from that of the United Nations report, he said.

West added that this is merely a situation where the United Nations model contradicts the model he is using.

"It is a scientific debate, not a political debate," he said.